

Appln. S/N 10/809,421
Amdt. dated March 29, 2006
Reply to Office Action dated December 29, 2005

Remarks

A Request for Continued Examination has been filed on today's date under separate cover.

Applicant has amended claims 1, 15 and 21. No other amendments have been made. Claims 1-4 and 7-23 remain pending in this application.

Applicant has amended claim 21 to address the Examiner's objection relating to the missing word "searchlines". Applicant has added the word in the appropriate location, and requests that the objection be withdrawn.

The Examiner has rejected claims 1-4, 7-13 and 15-20 under 35 USC 102(b) as being anticipated by U.S. Patent Application Publication No. 2002/0080638 to Hata. The Examiner further rejected claims 14 and 21-23 under 35 USC 103(a) as being obvious in view of the combination of Hata and U.S. Patent No. 6,108,227 to Voelkel.

In rejecting claim 1, the Examiner made reference to paragraph [0091] and Figures 1-3, 8 and 9. The Examiner indicated that Hata teaches a system having two types of CAM memory (specifically a binary CAM cell and a ternary CAM cell). Applicant notes that Hata cannot be properly considered as having a ternary CAM cell as it teaches the use of "pseudo 1-bit ternary CAM cells" as illustrated in Figure 2. Applicant has amended claim 1 to recite "the second memory portion being operable simultaneously with the first memory portion." Applicant notes that this amendment is supported by the specification as filed, and clearly that a system of the present invention allows the deployment of two types of memory to be simultaneously operable. The system as taught by Hata does not provide this feature. Hata employs two banks of binary CAM. In a first operational mode, the CAM operates as binary CAM using the CAM cells in the even and odd word banks, which are then simultaneously searchable, while in a second operational mode, the CAM operates as pseudo-ternary CAM by connecting the even and odd CAM banks together. As a result, it is not possible to employ both the binary and ternary CAM memories to be simultaneously operable.

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Applicant directs the Examiner's attention to paragraph [0091] of the Hata reference which states "When the CAM device 10 is used as a ternary CAM device, since two bits of CAM cells are used in combination to implement the same function as that of a ternary CAM cell, data conversion processing is required between external data and internal data." This, in conjunction with Figure 2, clearly teaches the connection of the first and second memory portions (even and odd words) to provide the equivalent of a ternary CAM cell, indicated as "Pseudo 1-bit Ternary CAM cell (three values are expressed by two bits in two binary CAM words)" in Figure 2. Thus, as both odd and even banks are required to provide the pseudo-ternary CAM, binary and ternary CAM cells cannot be provided simultaneously. As claim 1 states that "each second type of content addressable memory cell being smaller in size than each first type of content addressable memory cell, the second portion being operable simultaneously with the first memory portion", it is clear that Hata does not teach the matter of claim 1, and instead teaches first and second memory portions that cannot be accessed simultaneously.

If one were to interpret the pseudo-ternary function as accessing both the first and second portions of the memory simultaneously to offer ternary CAM functionality, which the Applicant submits is not a valid interpretation, Hata would still not teach the matter of claim 1, as claim 1 recites that the cells of the second type are smaller in size than the cells of the first type whereas Hata clearly discloses the cells as being the same size.

In view of the above arguments made in relation to amended claim 1, Applicant respectfully submits that claim 1 is patentable in view of the Hata reference, and requests that the rejection of claim 1 under 35 USC 102(b) be withdrawn.

Applicant submits that claims 2-4, and 7-13 all depend from claim 1, either directly or indirectly, and as such include all the limitations of claim 1. As claim 1 was submitted as being patentable in view of Hata, Applicant reiterates the arguments presented above with respect to claim 1, applies them to each of claims 2-4 and 7-13, and requests that the rejection of claims 2-4 and 7-13 under 35 USC 102(b) be withdrawn.

Applicant submits that claim 14 depends from claim 1, and further submits that combination of Hata and Voelkel, does not teach the matter of claim 1, let alone the matter of claim 14. As such, Applicant respectfully submits that claim 14 is patentable in view of the combination of Hata and Voelkel, and requests that the rejection of claim 14 under 35 USC 103(a) be withdrawn.

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Claim 15 is an independent claim. Applicant has amended claim 15 to recite the second type of content addressable memory cells as "being operable simultaneously with the first type of content addressable memory cells". Applicant notes that this limitation is similar to the limitation added to claim 1. Applicant reiterates the arguments presented above with respect to claim 1 and applies them to claim 15. Accordingly, Applicant submits that claim 15 is patentable in view of the teachings of the Hata reference, and requests that the rejection of claim 15 under 35 USC 102(b) be withdrawn.

Claims 16-20 each depend, either directly or indirectly, from claim 15. As such, each of claims 16-20 is no broader than claim 15 and includes the limitations of claim 15. Accordingly, Applicant submits that in view of the arguments presented above with respect to claim 15, claims 16-20 are also patentable in view of Hata. Applicant respectfully requests that the rejection of claims 16-20 under 35 USC 102(b) be withdrawn.

Applicant has amended claim 21 to recite that the second type of content addressable memory cells are "operable simultaneously with the first type of content addressable memory cells". Applicant notes that this limitation is similar to the limitation in claims 1 and 15, and respectfully re-iterates the arguments presented above with respect to those claims and applies them to claim 21. Applicant further submits that the Voelkel reference does not sufficiently add to the teachings of the Hata reference to teach the matter of claim 21. As such, Applicant submits that the matter of claim 21 is not obvious in view of the combination of Hata and Voelkel and accordingly requests that the rejection of claim 21 under 35 USC 103(a) be withdrawn.

Applicant submits that claims 22 and 23 depend from claim 21 and, as such, are no broader in scope than claim 21. Accordingly, Applicant re-iterates the arguments presented above with respect to claim 21 and applies them to claims 22 and 23. Applicant submits that as Voelkel and Hata fail to teach the matter of claim 21, the combination must fail to teach the matter of claims 22 and 23, and accordingly Applicant requests that the rejection of claims 22 and 23 under 35 USC 103(a) be withdrawn.

Therefore, Applicant submits that the application is now in condition for allowance, and favorable action to that end is respectfully requested.

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We believe no fee is required. However, if a fee is due, the Commissioner is hereby authorized to charge any additional fees, and credit any overpayments to Deposit Account No. 501593, in the name of Borden Ladner Gervais LLP.

Respectfully submitted,

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1. Fee Transmittal
2. Request for Continued Examination